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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/672,377

09/26/2003

Shigeaki Fukui

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8545

29619 7590 04/05/2007  
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EXAMINER

ECHELMMEYER, ALIX ELIZABETH

ART UNIT

PAPER NUMBER

1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/672,377

Applicant(s)

FUKUI, SHIGEAKI

Examiner

Alix Elizabeth Echelmeyer

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response*

1. This Office Action is in response to the Remarks filed January 16, 2006. Claims 1-6 are pending and are rejected for the reasons given below.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehara (US Pre-Grant Publication 2002/0142195) in view of Masumoto et al. (US Pre-Grant Publication 2003/0180582).

Ehara teaches a battery pack having a circuit element protected by a positive temperature coefficient (PTC) element (abstract, [0034]-[0035]), which is the element used as the heat protecting element in the instant disclosure.

Ehara further teaches that the PTC element (15) is bonded to the battery, or separated from the surface of the cell, by resin (17) (Figure 3, [0010], [0034], [0035]).

Ehara teaches a case to protect the circuit elements (41) (Figure 3).

Art Unit: 1745

Ehara fails to teach a resin mold section covering the circuit, connecting members, and PTC element.

Regarding claims 1 and 2, Masumoto et al. teach a battery having elements covered by an insulating resin mold package ([0018]).

As the sleeve requirement of claim 3, the protection circuit element of Ehara would be surrounded by the insulating resin of Masumoto et al., thus the resin acts as a sleeve.

It would be desirable to fill the case of Ehara with resin as taught by Masumoto et al. since it would provide additional insulation to the circuit elements of Ehara.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the case of Ehara with resin as taught by Masumoto et al. since it would provide additional insulation to the circuit elements of Ehara.

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehara in view of Masumoto et al. as applied to claims 1-3 above, and in further view of Fong et al. (US Pre-Grant Publication 2003/0124420).

The teachings of Ehara and Masumoto et al. as discussed above are incorporated herein.

Ehara in view of Masumoto et al. teaches the battery of the instant invention but fails to teach that the connection members are made of metal plates.

Fong et al. teach the use of metal, especially copper, plates as terminal connectors since they provide high conductivity and low contact resistance ([0043]).

It would be desirable to use the metal plates of Fong et al. in the battery of Ehara in view of Masumoto et al. since they provide high conductivity and low contact resistance.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the metal plates of Fong et al. in the battery of Ehara in view of Masumoto et al. in order to improve the performance of the battery through the high conductivity and low contact resistance of the plates as taught by Fong et al.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone


Art Unit: 1745

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer  
Examiner  
Art Unit 1745

aee

  
SUSY TSANG-FOSTER  
PRIMARY EXAMINER